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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,422	05/15/2001	Markus Zumkeller	450117-03188	8953
20999	7590	01/03/2005	EXAMINER	
FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			LE, LANA N	
			ART UNIT	PAPER NUMBER
			2685	

DATE MAILED: 01/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/855,422

Applicant(s)

ZUMKELLER ET AL.

Examiner

Lana N Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 1- 8, 12, and 14 are objected to because of the following informalities:
 - in claim 1, line 1, before "AM receiver" add "An", "comprising" of line 2 after "bandwidth," is already stated in line 1 of claim 1 after "receiver" and therefore should be deleted.
 - in claims 2-8, line 1, before "AM receiver" add "The".
 - in claim 12, line 1, after "An", "Am" should be "AM"; line 7, after "detuned" "form" should be "from".
 - in claim 14, line 6, after "said", "down-conversation" should be "down-conversion".
 - in claim 9, "eventually preprocessed" should have an "an" preceding it since it was not introduced priorly.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

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The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

- in the abstract, line 5, after "a center frequency (fsubIF1) of", delete "said" and add "the", also in line 6, after "adjacent to" and "lies outside", delete "said" and add "the".
Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 8-10, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bach et al (US 6,088,569) in view of the admitted prior art.

Regarding claim 1, Bach et al disclose a receiver comprising at least one IF filter with a fixed IF bandwidth (602; fig. 6; col 4, lines 37-39), at least one down-conversion stage (306, 316; fig. 3; col 3, lines 23-36; col 4, lines 34-37) to shift the signal input thereto into an IF range having a variable oscillation frequency (appropriate LO1 frequency set by controller 311) which is adjustable to detune a wanted center frequency of a wanted signal part (202; fig. 6) from a center frequency of said at least one IF filter (320; fig. 6) so that an unwanted signal part (606) adjacent to said wanted signal part lies outside said fixed IF bandwidth (602) (col 2, line 64 – col 3, line 36; col 4,

lines 34-43; figs. 5-6). Bach et al don't specifically disclose an AM receiver. However, it is well known in the art that the received signal can be amplitude modulated as is taught by the admitted prior art where an AM signal is received (fig. 3, page 2, lines 21-25). Therefore, it would have been obvious to one of ordinary skill in the art to replace the receiver of Bach et al with an AM receiver of the admitted prior art in order to have the improved usage of being able to add information to an electronic signal and varies the signal by its height to impose information on it.

Regarding claim 2, Bach et al further disclose a receiver according to claim 1, comprising a baseband processing stage (322) which readjusts the detuned IF signal to a predetermined center frequency (col 4, lines 44-58).

Regarding claim 3, Bach et al further disclose a receiver according to claim 2, wherein the baseband processing is performed digitally (col 4, lines 44-58).

Regarding claim 4, Bach et al further discloses a receiver according to claim 1, wherein a down-conversion stage (316; fig. 3) which readjusts the detuned IF signal to a predetermined center frequency.

Regarding claim 8, Bach et al disclose a receiver according to claim 1, wherein the unwanted signal part is detected by analyzing the power of FFT carriers outside the wanted signal part, BER fine tuning in a digital baseband processing or during optimization of an Automatic Gain Control voltage (RSSI indication during AGC of baseband signal; col 4, lines 44-58).

Regarding claim 9, Bach et al disclose a method to process a received signal wherein the received and eventually preprocessed signal (col 3, lines 17-21) gets

shifted at least once into an IF range (via 306, 316), characterized by detuning a wanted center frequency of a wanted signal part from a center frequency used during at least one IF filtering (via 320; fig. 6) with a fixed IF bandwidth (602; fig. 6; col 4, lines 37-39) so that an unwanted signal part adjacent to said wanted signal part lies outside said fixed IF bandwidth 602 (col 2, line 64 – col 3, line 36; col 4, lines 34-43; figs. 5-6).

Bach et al don't specifically disclose an AM signal. However, it is well known in the art that the received signal can be amplitude modulated as is taught by the admitted prior art where an AM signal is received (fig. 3, page 2, lines 21-25). Therefore, it would have been obvious to one of ordinary skill in the art to replace the method of receiving a signal of Bach et al with the method of receiving an AM signal as taught by the admitted prior art in order to have the improved usage of being able to add information to an electronic signal and varies the signal by its height to impose information on it.

Regarding claim 10, Bach et al further disclose a method according to claim 9, comprising the step of readjusting via 322 the detuned IF signal to a predetermined center frequency after said at least one IF filtering via 320 (col 4, lines 44-58).

Regarding claim 12, Bach et al disclose a receiver (col 3, lines 17-21) comprising:

- an IF filter 320 having a fixed IF bandwidth (602; fig. 6; col 4, lines 37-39) and a predetermined center frequency IF2,

- a down-conversion stage (306, 316; fig. 3; col 3, lines 23-36) arranged upstream from the IF filter 320, configured to shift the signal input thereto into an IF range having a variable oscillation frequency (appropriate LO1 frequency set by controller 311) which

is adjustable to detune a wanted center frequency of a wanted signal part (202; fig. 6) from a center frequency IF2 of said at least one IF filter (320; fig. 3) so that an unwanted signal part (606) adjacent to said wanted signal part lies outside said fixed IF bandwidth (602) (col 2, line 64 – col 3, line 36; col 4, lines 34-43; figs. 5-6).

Bach et al don't specifically disclose an AM receiver. However, it is well known in the art that the received signal can be amplitude modulated as is taught by the admitted prior art where an AM signal is received (fig. 3, page 2, lines 21-25). Therefore, it would have been obvious to one of ordinary skill in the art to replace the receiver of Bach et al with an AM receiver of the admitted prior art in order to have the improved usage of being able to add information to a received electronic signal and varies the signal by its height to impose information on it.

Regarding claim 13, Bach et al further disclose the AM receiver of claim 12, comprising a baseband processing stage (322), arranged downstream from the IF filter 320, configured and adapted to shift the detuned input signal to the center frequency of the IF filter (col 4, lines 44-58).

Regarding claim 14, Bach et al disclose a receiver (col 3, lines 17-21) comprising:

an IF filter (320) having a fixed IF bandwidth (602; fig. 6; col 4, lines 37-39) and a predetermined center frequency IF2,

a down-conversion stage (306, 316; fig. 3; col 3, lines 23-36) arranged upstream from the IF filter (320), configured and adapted to receive an input signal (RFin) having

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a desired signal component and an undesired signal component adjacent the desired signal component in the frequency domain (col 3, lines 6-11, lines 59-61), wherein the down-conversion stage (306, 316) is configured and adapted to shift the input signal into an IF range such that the undesired signal component (606) lies at least partially outside the bandwidth (602) of the IF filter (320) (col 2, line 64 – col 3, line 36; col 4, lines 34-43; figs. 5-6).

Bach et al don't specifically disclose an AM receiver. However, it is well known in the art that the received signal can be amplitude modulated as is taught by the admitted prior art where an AM signal is received (fig. 3, page 2, lines 21-25). Therefore, it would have been obvious to one of ordinary skill in the art to replace the receiver of Bach et al with an AM receiver in order to have the improved usage of being able to add information to a received electronic signal and varies the signal by its height to impose information on it.

Regarding claim 15, Bach et al disclose an AM receiver of claim 14, wherein the IF filter (320) has a predetermined center frequency (col 4, lines 37-39), the desired signal component 202 has a center frequency IF2, the down-conversion stage (306, 316) is moreover configured and adapted to shift the input signal (RFin) into the IF range such that the center frequency of the shifted input signal (IF2) is detuned from the center frequency of the IF filter 320.

4. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bach et al (US 6,088,569) in view of Roshmann et al (US 5,305,347).

Regarding claim 5, Bach et al further discloses the AM receiver according to claim 1, wherein Bach et al didn't specifically disclose the receiver is characterized in that it is a digital shortwave receiver, in particular a Digital Radio Mondial receiver. Roschmann et al discloses a digital shortwave communication system (title). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have a digital shortwave in order to have a small shortwave transmission band below a certain predefined frequency as one type of standard digital radio signal transmission.

Regarding claim 11, Bach et al discloses a method according to claim 9, wherein Bach et al didn't specifically disclose the method is characterized in that it is used for digital shortwave reception, in particular Digital Radio Mondial reception. Roschmann et al discloses a digital shortwave communication system (title). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have a digital shortwave in order to have a small shortwave transmission band below a certain predefined frequency as one type of standard digital radio signal transmission.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bach et al (US 4,856,085) in view of Dwyer (US 5,970,400).

Regarding claim 6, Bach et al further discloses a receiver according to claim 1, wherein Bach et al didn't specifically disclose the receiver is characterized in that said at least one IF filter is an analogue filter. Dwyer discloses an analogue filter (col 8, lines 65-67). It would have been obvious to one of ordinary skill in the art at the time of the

invention was made to use an analogue filter in Bach et al in order to filter in an analog manner the received signal.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bach et al (US 4,856,085) in view of Nash (US 6,317,589).

Regarding claim 7, Bach et al further discloses a receiver according to claim 1, wherein Bach et al didn't specifically disclose the receiver is characterized in that said fixed IF bandwidth is 20 kHz. Nash discloses the receiver is characterized in that said fixed IF bandwidth is 20 kHz (col 3, lines 4-20). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have a specific predefined IF bandwidth in Bach et al in order allocate a specific frequency that the bandwidth has to be in.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lana N Le whose telephone number is (703) 308-5836. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F Urban can be reached on (703) 305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Lana Le". The signature is fluid and cursive, with the first name "Lana" and the last name "Le" clearly distinguishable.

Lana Le

December 27, 2004